

Part A. PERSONAL INFORMATION

CV date

09-27-2018

First and Family name	M. Luisa Bonet		
Social Security, Passport, ID number	43000944Y	Age	56
Researcher numbers	Researcher ID	H-6722-2015	
	Orcid code	0000-0002-8698-0630	

A.1. Current position

Name of University/Institution	Universidad de las Islas Baleares		
Department	Fundamental Biology and Health Sciences		
Address and Country	Carretera de Valldemossa, km 7.5. 07122 Palma. Spain		
Phone number	+34971172734	E-mail	luisabonet@uib.es
Current position	Full Professor	From	10-06-2016
UNESCO codes	240300 – Biochemistry; 320600 – Nutritional Sciences; 330900 – Food technology		
Key words	Obesity, carotenoids, retinoids, metabolic programming, nutrigenomics		

A.2. Education

	University	Year
B.Sc./M.Sc Ciencias(Biology)	Universitat de les Illes Balears (Spain)	1986
Ph.D. Science (Biology)	Universidad de Alicante (Spain)	1990

A.3. General Indicators of scientific quality

Number of 6-year research periods accredited: **4** (sequential).

Date of the last 6-year research period accredited: **2013**

Number of doctoral theses supervised in the last 10 years: **4 + 1** on-going.

Total citations: **2469** (without auto-cites: 2014) (Web of Science)

Citations/ year over the last 5 years (not including the current year): **229.6** (Web of Science)

Total number of Q1 publications: **46**

H index: **30** (Web of Science)

Part B. CV SUMMARY (max. 3500 characters, including spaces)

Dr. M. Luisa Bonet is Full Professor of Biochemistry and Molecular Biology at the University of the Balearic Islands (UIB). She is member of the Nutrigenomics and Obesity (NuO) research group of the UIB and of *Centro de investigación Biomédica en red de Fisiopatología de la obesidad y nutrición* (CIBEROBN), a Spanish research center in the field of nutrition and obesity. She is Secretary of the Laboratory of Molecular Biology, Nutrition and Biotechnology (LBNB) of the UIB. She is also member of NuGO, the European research network of excellence on Nutrigenomics. Her background is in molecular nutrition, nutrigenomics and physiopathology of obesity. Her main research topics relate to the mechanisms regulating body weight and adiposity in mammals and their control by dietary factors, including the impact of early life nutrition in the programming of obesity and related health outcomes. Her research has been pioneer in demonstrating that vitamin A-related compounds can reduce mammalian adiposity and impact key aspects of adipose tissue biology in animal and cellular models.

She has participated in 49 scientific projects (15 international) granted in competitive calls, mainly sponsored by the Spanish Government and the EU, and in 16 R+D+i contracts with other public and private organism. Of them, she has been PI by the UIB in the Focus Team-Window of benefit for carotenoids (2007-2008), sponsored by NuGO; the EU-funded project SALUX (2011-2014), for the follow-up of the reformulation of manufactured foods for a healthier diet; and the CYTED-funded project IBERCAROT (2012-2015), an Ibero-american network for the study of carotenoids as functional food ingredients. She has been the Scientific Secretary and member of the Steering Committee of the EU-funded project BIOCLAIMS (2010-2015), for the identification of nutrigenomics-derived biomarkers to sustain health claims made on food. PI of a competitive project

funded by Fundación Ramon Areces on nutriepigenetics in relation to the control of body adiposity (2012-2015), and of 3 research contracts with industry sponsored by the Centre for the Development of Industrial Technology (CDTI) of the Spanish Government within the CENIT and CIEN programs.

She has participated in the organization of numerous R&D activities (congresses, symposia, scientific meetings, etc.) of national and international scope. She is founder member and member of the scientific committee of the technology-based company ALIMENTOMICA S.L. (a UIB spin-off, born in 2011). She has research stays abroad, in California (USA) as Fulbright post-doctoral fellowship, and Stockholm (Sweden).

She is co-author of 76 scientific publications in peer-reviewed indexed scientific journals, 19 book chapters (11 of them international), 2 books, and a book on Obesity and Functional Foods in Europe (European Commission, 2002) as editor. She is also co-author of one international patent transferred to industry and under exploitation. She has presented over 150 contributions in scientific congresses and symposia, of which nearby 30 invited lecturers, including lecturers in top meetings in the carotenoid and retinoid fields in the last 10 years. She has supervised 6 doctoral theses (one in course). Her main teaching is in the degrees of Biochemistry and Biology, and in the Master/doctorate in Nutrigenomics and Personalized Nutrition of the UIB.

Part C. RELEVANT MERITS

C.1. Publications (including books)

- Serrano A, Asnani M, Rodríguez AM, Palou A, Ribot J, **Bonet ML** (2018). Programming of the Beige Phenotype in White Adipose Tissue of Adult Mice by Mild Resveratrol and Nicotinamide Riboside Supplementations in Early Postnatal Life. *Mol Nutr Food Res*. e1800463. doi: 10.1002/mnfr.201800463. [Epub ahead of print]
- Arreguín A, Ribot J, Mušinić H, von Lintig J, Palou A, **Bonet ML**. Dietary vitamin A impacts DNA methylation patterns of adipogenesis-related genes in suckling rats. *Arch Biochem Biophys*. 2018;650:75-84.
- Rodriguez-Concepcion M, Avalos J, **Bonet ML**, Boronat A, Gomez-Gomez L, Hornero-Mendez D, Limon MC, Meléndez-Martínez AJ, Olmedilla-Alonso B, Palou A, Ribot J, Rodrigo MJ, Zacarias L, Zhu C (2018). A global perspective on carotenoids: Metabolism, biotechnology, and benefits for nutrition and health. *Prog Lipid Res*. 70:62-93.
- Reynés B, Serrano A, Petrov PD, Ribot J, Chetrit C, Martínez-Puig D, **Bonet ML**, Palou A (2016). Anti-obesity and insulin-sensitising effects of a glycosaminoglycan mix. *Journal of Functional Foods* 26: 350–362.
- Tourniaire F, Musinovic H, Gouranton E, Astier J, Marcotorchino J, Arreguin A, Bernot D, Palou A, **Bonet ML**, Ribot J, Landrier JF (2015). All-trans retinoic acid induces oxidative phosphorylation and mitochondria biogenesis in adipocytes. *J Lipid Res* 56:1100-9.
- **Bonet ML**, Oliver P, Palou A (2013). Pharmacological and nutritional agents promoting browning of white adipose tissue. *Biochim Biophys Acta* 1831(5):969-85.
- Granados N, Amengual J, Ribot J, Musinovic H, Ceresi E, von Lintig J, Palou A, **Bonet ML** (2013). Vitamin A supplementation in early life affects later response to an obesogenic diet in rats. *Int J Obes (Lond)* 37(9):1169-76.
- **Bonet ML**, Ribot J, Palou A (2012). Lipid metabolism in mammalian tissues and its control by retinoic acid. *Biochim Biophys Acta* 1821(1):177-89.
- Amengual J, Gouranton E, van Helden YGJ, Hessel S, Ribot J, Kramer E, Kiec-Wilk B, Razny U, Lietz G, Wyss A, Dembinska-Kiec A, Palou A, Keijer J, Landrier JF, **Bonet ML**, von Lintig J (2011). Beta-Carotene Reduces Body Adiposity of Mice via BCMO1. *PLoS ONE* 6(6): e20644.
- Mercader J, Palou A, **Bonet ML** (2010). Induction of Uncoupling Protein 1 in Mouse Embryonic Fibroblast-Derived Adipocytes by Retinoic Acid. *Obesity (Silver Spring)* 18: 655-62.

C.2. Research projects and grants

- Reference: AGL2015-67019. Title: *La interacción entre nutrientes/bioactivos de los alimentos como determinante de la programación metabólica en la prevención de la obesidad y sus complicaciones* (The interaction between nutrients/ food bioactives as a determinant of metabolic programming in the prevention of obesity and its complications). Financing organization: Spanish Government. Principal Investigator: Andreu Palou (UIB) and Catalina Picó (UIB). Duration, from: 01/01/2016 to: 31/12/2018. Budget: 183799,00 €. Type of participation: researcher.

- Reference: AGL2012-33692. Title: *Detección y caracterización de compuestos bioactivos en la leche. Un enfoque nutriepigenético contra la obesidad* (Detection and characterization of milk bioactive compounds; a nutriepigenetics approach to obesity). Financing organization: Spanish Government. Principal Investigator: Andreu Palou (UIB). From: 01/01/2013 to: 31/12/2015. Budget: 444600 €. Type of participation: researcher.
- Title: *Nutriepigenética del control de la adiposidad corporal: estudios en modelos animales de susceptibilidad diferencial a la obesidad basados en intervenciones nutricionales en etapas vitales tempranas* (Nutriepigenetics of body fat control; Studies in animal models of differential susceptibility to obesity based on nutritional interventions in early life). Financing organization: Fundación Ramón Areces. Duration, from: 27/06/2012 to: 27/06/2015. Budget: 78000 €. Type of participation: Principal Investigator.
- Title: *Red iberoamericana para el estudio de nuevos carotenoides bioactivos como ingredientes de alimentos* (IBERCAROT) (Ibero-american network for the study of carotenoids as food ingredients). Financing organization: *Programa iberoamericano de ciencia y tecnología para el desarrollo* (CYTED). Coordinator: Antonio J. Meléndez Martínez (Universidad de Sevilla). Duration, from: 01/01/2012 to: 31/12/2015. Budget: 110000 €. Type of participation: Principal Investigator by the UIB.
- Reference: HEALTH-F2-2011-278373. Title: Recruitment and activation of brown adipocytes as preventive and curative therapy for type 2 diabetes (DIABAT). Financing organization: European Union, FP7. Coordinator: Stephan Herzig (DKFZ, Germany); PI by the UIB: Andreu Palou. Duration from: 01/10/2011 to: 30/09/2015. Budget: 6000000 € (total), 211260 € (UIB). Type of participation: researcher.
- Reference: 2010 12 10 (grant agreement nº 20101210100865). Title: A European Network to follow-up the reformulation of food. Identification and exchange of good practices for SMEs and consumers (SALUX). Financing organization: European Union, Second Programme of Community Action in the Field of Health 2008-2013. Coordinador: Dario Vallauri (Tecnogrande, Italia). Duration, from: 05/08/2011 to: 05/08/2014. Budget: 834688 € (total), 41376 € (UIB). Type of participation: Principal Investigator by the UIB.
- Reference: FP7-244995. Title: BIOMarkers of Robustness of Metabolic Homeostasis for Nutrigenomics-derived Health CLAIMS Made on Food (BIOCLAIMS). Financing organization: European Union, FP7. Coordinator: Andreu Palou (UIB). Duration, from: 01/03/2010 to: 28/02/2015. Budget: 5999965 € (total), 998532 € (UIB). Type of participation: Scientific Secretary, Co-lider of work-package 2 & member of the Project's Steering Committee.

C.3. Contracts and transference activity

Title: *ALIÓPTIMA: Identificación de necesidades específicas de nutrientes y otros bioactivos en relación con actuales y posibles health claims, y sus combinaciones, para el diseño de alimentos y complementos multifuncionales apropiados en nutrición personalizada*. Contract within the project SMARTFOODS of Spanish PROGRAMA ESTRATÉGICO CIEN (IDI-20141208). Financing organization: Centro para el Desarrollo Tecnológico Industrial (CDTI)-Alimentómica S.L. Duration, from: 17/07/2014 to: 17/07/2018. Budget: 67500 €. Principal Investigators: **M. Luisa Bonet** (UIB) & Andreu Palou (UIB).

Title: *Identificación y caracterización nutricional de marcadores de alteraciones articulares en el sobrepeso y la obesidad y su potencial control por mucopolisacáridos*. Contract within the project PRONAS of Spanish CENIT programme (CENIT-2008-1004). Financing organization: CDTI-Bioibérica S.A. Duration, from: 01/01/2008 to: 31/12/2011, extended sucesively until 30/09/2014. Budget: 300000 €. Principal Investigators: **M. Luisa Bonet** (UIB) & Andreu Palou Oliver (UIB).

Title: *Estudio de posibles propiedades de GAGs desarrollados por la empresa en la adipogénesis y su implicación en la obesidad*. Contract within the project PRONAS of Spanish CENIT programme (CENIT-2008-1004). Financing organization: CDTI-Bioibérica S.A. Duration, from: 22/11/2010 to: 31/12/2011. Budget: 150000 €. Principal Investigators: M. Luisa Bonet (UIB) & Andreu Palou Oliver (UIB).

Founder member of ALIMENTÓMICA SL (CIF B57730582) a technology-based company participated by the University of the Balearic Islands, constituted in 2011, whose purpose is research, development, innovation and commercialization of new knowledge and products in the field of food and health.

C.4. Patents

Autors: Josep Escaich-Ferrer, **María Luisa Bonet-Piña**, Daniel Martínez-Puig, Nuria Granados-Borbolla, Bárbara Reynés-Miralles, Carles Chetrit-Russi, Andreu Palou-Oliver. Reference: International Application nº PCT/EP2013/065384. Title: Compositions comprising hyaluronic acid and dermatan sulphate for the treatment of being overweight and obesity. Publication Date: 30.01.2014; International Filing Date: 22.07.2013. Entity holder: Bioibérica S.A. Palafoll Barcelona

Autors: Josep Escaich-Ferrer, **María Luisa Bonet-Piña**, Daniel Martínez-Puig, Nuria Granados-Borbolla, Bárbara Reynés-Miralles, Carles Chetrit-Russi, Andreu Palou-Oliver
Reference: P201231198. Title: *Composiciones para el tratamiento del sobrepeso y de la obesidad*. Priority date: 25.07.2012. Entity holder: Bioibérica S.A. Palafoll Barcelona

C.5. Theses and other works directed

Theses directed (last 10 years):

- IN COURSE: *Modulación del órgano adiposo a corto y largo plazo por nutrientes activadores del proceso de marronización: impacto sobre la adiposidad corporal y la obesidad*. Alba Serrano Bengoechea. Directors: **Bonet ML**, Palou A. Admission: November 14, 2014. Publications derived: Reynés et al. J Funct. Foods. 2016 Oct;26:350-62; Serrano et al. Mol Nutr Food Res. 2018 Aug 10:e1800463.
- *Nuevos mecanismos y biomarcadores de la interacción de la vitamina A con el metabolismo lipídico y energético y su papel en la programación metabólica*. Andrea Arreguín Coronado. Directors: Ribot J, **Bonet ML**. Admission: November 22, 2013. Defence: June 27, 2017. Excellent *cum laude*. Publications derived: Arreguín et al. Arch Biochem Biophys. 2018 Jul 15;650:75-84; Amengual et al. Cell Physiol Biochem. 2018;46(1):187-202.
- *Characterization of the role of retinoblastoma protein in metabolic regulation*. Petar Dianov Petrov. Directors: **Bonet ML**, Ribot J. Admission: 2010. Defence: February 5, 2016. Excellent *cum laude*. European Mention. Publications derived: Moreno-Navarrete et al. Diabetes. 2013 Jun;62(6):1923-31; Petrov et al. Am J Physiol Endocrinol Metab. 2015 Jan 15;308(2):E172-83; Petrov et al. J Cell Physiol. 2016 Mar;231(3):708-18; Petrov et al. PLoS One. 2016 May 10;11(5):e0155361; Petrov et al. J Cell Physiol. 2016 Sep;231(9):1941-52.
- *Nuevas interacciones nutrientes-genes en conexión con el problema de la obesidad y la función adipocitaria*. Nuria Granados Borbolla. Director: **Bonet ML**. Admission: 2008. Defence: November 14, 2011. Excellent *cum laude*. Publications derived: Bonet et al. Curr Drug Targets. 2011 Dec;12(14):2103-28. Review; Granados et al. Br J Nutr. 2011 Apr;105(8):1226-34; Granados et al. Int J Obes (Lond). 2013 Sep;37(9):1169-76; Petrov et al. Cell Physiol Biochem. 2015;37(5):1792-806.
- *Cambios funcionales del tejido adiposo asociados a la vitamina A*. Josep Mercader Barceló. Directors: **Bonet ML**, Palou A. Admission: 2003. Defence: June 30, 2008. Excellent *cum laude*. European Mention. Publications derived: Felipe et al. Biochim Biophys Acta. 2005 May 30;1740(2):258-65; Mercader et al. Endocrinology. 2006 Nov;147(11):5325-32; Mercader et al. Cell Physiol Biochem. 2007;20(6):1061-72; Mercader et al. Cell Physiol Biochem. 2008;22(1-4):363-72; Mercader et al. Horm Metab Res. 2008 Jul;40(7):467-72; Mercader et al. Am J Physiol Endocrinol Metab. 2009 Jul;297(1):E184-93; Mercader et al. Obesity (Silver Spring). 2010 Apr;18(4):655-62.

From 2007 to date, director of: 24 Final Master Thesis (within the Master in Nutrigenomics and Personalized Nutrition of the UIB), and 8 Final Degree Projects (7 at UB and 1 at Università della Calabria, Italy).

C.6. Participation in evaluation tasks

- Peer-reviewer of over 70 scientific papers in well ranked journals, including *Diabetes* (30), *British Journal of Nutrition* (7), *Int J Vitam Nutr Res* (4), *European Journal of Nutrition* (4), *Planta Medica* (4) & *Biochim Biophys Acta* (5).
- Member of the review board of 18 doctoral thesis, defended at Universitat de les Illes Balears, Universitat de Barcelona, Universitat de Navarra, Universidad de Alicante, and the German Institute of Human Nutrition (DIfE, Potsdam).
- Evaluator of a project for the Austrian Science Fund (FWF, Project number P23446-B19, February 2011).
- Evaluator of a project for the Dutch Arthritis Foundation REUMAFONDS (July 2012).